

REMARKS

Claims 20-31 are pending and stand ready for further action on the merits.

[I] Rose et al., U.S. 6,503,136, Win et al., U.S. 4,833,003 and Jones et al., U.S. 4,725,489

Claims 20 and 28 are rejected under 35 U.S.C. §103(a) as being unpatentable over Rose et al. in view of Win et al. and Jones et al. Applicants respectfully traverse the rejection.

[I - A] The Present Invention and its Advantages

The present invention relates to a detergent-impregnated article and a method for cleaning a hard surface using said article. Said article comprises a base body impregnated with a detergent, wherein the detergent comprises 1-10 wt% solid abrasive particles, a protective layer-forming component and water. This detergent is impregnated in the base body of the article.

The solid abrasive particles are present in the detergent in an amount of 1 to 10% by weight and consist of organic polymer particles and/or inorganic particles. These solid abrasive particles help to remove the dirt from the hard surface to be cleaned by mixing with the dirt as the impregnated article is wiped over the hard surface, thereby releasing the dirt from the surface in a powdered state.

The present inventors have shown that including the soft abrasive particle in the detergent-impregnated article, gives the article improved properties which would not be expected based upon the art. Specifically, the following table shows the difference in the effect of using a detergent-impregnated article which contains 3 wt% soft abrasive particles versus the detergent-impregnated article which does not contain these soft abrasive particles.

Table^A

	Dynamic Friction Coefficient in Wiping	Degree of Streaks (Gloss)	Static Friction Coefficient of Cleaned Surface	Degree of Staining (%)
Example 1	0.20	114	0.25	17
Comparative Example 1	0.50	110	0.30	21

A = The data can be found on page 31 of the specification.

As can be seen from the above Table, Inventive Example 1 which contains 3 wt% solid abrasive particles, has an improved dynamic friction coefficient in wiping, degree of streaks, static friction coefficient of cleaned surface and degree of staining over Comparative Example 1 which does not contain the solid abrasive particles. Such an improvement would not be expected based on the prior art.

The above-explanation of the present invention and its advantages has been provided to highlight the patentable distinctions between the present invention and the cited references.

[I - B] Concentration of Abrasive Component

The Examiner cites Rose et al. at column 3, lines 41-43 for teaching that the solid abrasive particles are present in an amount of 1 to 10% by weight.

Applicants respectfully submit that the Examiner has mischaracterized the teachings of Rose et al. There is clearly a distinction between: A) the presently claimed recitation that there is up to 10wt% of the abrasive particles in the detergent; and B) the presence of an abrasive component accounting for a minimum of 10% of the surface area of the abrasive side of a towel of Rose et al. Based on the following reasoning, Applicants respectfully submit that the skilled artisan would find that there is no overlap between these concentration ranges of the abrasive particles.

Rose et al. teach that the abrasive component "accounts for a minimum of 10%... of the surface area of the abrasive side of the towel, with the opposite side having a smooth surface for wiping and buffing." See column 3, lines 41-45. This clearly means that the abrasive component of Rose et al. is limited to the **surface** of

the substrate and consists of "a layer of fibers or fiber bundles and small, minute generally spherical masses...". Also, in the examples of Rose et al., the abrasive component is merely part of the towel substrate and is not a separate entity which is combined with the detergent, as presently claimed.

The present claims describe the detergent as being **impregnated** in the base body of the article. Accordingly, even if the **inventive** abrasive particles were present in the detergent at a concentration of 10 wt%, it would be impossible for the inventive detergent-impregnated article to have the entire portion (10 wt%) of the abrasive particles **on the surface** of the article as required by Rose et al.

The Examiner, aware of the deficiencies of Rose et al., cites Win et al. and Jones et al. in order to cure these deficiencies. Applicants respectfully submit that the secondary references fail to cure the deficiencies of Rose et al. The Examiner cites Win et al. for teaching that moist abrasive wipes can be impregnated with an aqueous cleaning solution, and the Examiner cites Jones et al. for teaching that the aqueous liquid composition can be impregnated into the substrate. Accordingly, Win et al. and Jones et al. fail to cure the deficiencies of Rose et al., since neither Win et al. nor Jones et al. fairly suggest modifying the cleaning article of Rose et al. to incorporate a detergent impregnated in the body of

the article wherein the detergent comprises up to 10 wt% of abrasive particles.

As the MPEP directs, all the claim limitations must be taught or suggested by the prior art to establish a *prima facie* case of obviousness. See MPEP § 2143.03. Thus, a *prima facie* case of obviousness cannot be said to exist, since the combination of cited references fail to teach or fairly suggest that: 1) the detergent is impregnated in the body of the article; and 2) the abrasive particles are present in the detergent in an amount of 1 to 10% by weight. Accordingly, withdrawal of the rejection is respectfully requested.

[III] Win et al., Rose et al. and Wong et al., U.S. 5,213,588

Claims 21-27 and 29-31 are rejected under 35 U.S.C. §103(a) as being unpatentable over Win et al. in view of Rose et al. and Wong et al. Applicants respectfully traverse the rejection.

As mentioned above, the combination of Win et al. and Rose et al. fail to teach or fairly suggest the inventive features that: 1) the detergent is impregnated in the body of the article; and 2) the abrasive particles are present in the detergent in an amount of 1 to 10% by weight.

The Examiner, aware of the deficiencies of Win et al. and Rose et al., cites Wong et al. in order to cure these deficiencies.

Applicants respectfully submit that Wong et al. fail to cure the deficiencies of Win et al. and Rose et al.

The Examiner cites Wong et al. for teaching that "cleaning is improved with abrasivity and this depends upon the shape, size, and particle hardness of the particles." Accordingly, Wong et al. fail to cure the deficiencies of Win et al. and Rose et al., since Wong et al. fail to fairly suggest modifying the cleaning article of Win et al. to incorporate a detergent impregnated in the body of the article wherein the detergent comprises up to 10 wt% of abrasive particles.

In addition, Applicants note that Wong et al. teach that the abrasive particles have a Knoop hardness of 4-25, and Wong et al. fail to teach or suggest that the abrasive particles have a pencil hardness of 6B to 9H, as presently claimed.

The pencil hardness is a measure representing resistance to scratch when the surface of a sample is scratched with a sharp-pointed pencil and scratches are marked on the surface. On the other hand, Knoop hardness is a measure representing resistance to collapse or breakage and is shown by the collapsed area of a sample when the sample is pressed by a stylus having a diamond tip. Thus, the correlation between the pencil hardness and Knoop hardness is definitely unknown. Considering the large difference in hardness between the materials used for measurement, i.e., pencil vs. diamond, the pencil hardness may be used to represent hardness of

relatively softer materials like coated materials. Accordingly, the skilled artisan would be motivated to pick harder materials than the inventive abrasive particles, since the fact that Wong et al. measures the hardness of the abrasive particles using Knoop hardness implies that the abrasive particles are hard.

Thus, considerable patentable distinctions exist between the present invention and the teachings of Wong et al., Win et al. and Rose et al. As such, withdrawal of the rejection is respectfully requested.

[III] Hoshino et al., U.S. 6,376,046

The Examiner rejects claims 21-31¹ under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of Hoshino et al. Applicants respectfully traverse the rejection.

Since: 1) Hoshino et al. has an effective U.S. filing date of January 23, 1998 which falls after the instant effective U.S. filing date of December 4, 1997; and 2) Hoshino et al. has first matured to a patent, the analysis for obviousness-type double patenting is a "Two Way" analysis. In other words, in order for

¹ Based on the Examiner's comments, it appears that the Examiner meant to include claim 20 in the rejection. Applicants will proceed as if claim 20 has been included in the rejection. The Examiner is respectfully requested to clarify this matter in the next communication.

the rejection to be tenable: (Analysis A) the presently claimed invention must be obvious based on the claims of Hoshino et al. in view of the prior art; **and** (Analysis B) the claims of Hoshino et al. must be obvious based on the present claims in view of the prior art.

Applicants respectfully submit that under either analysis the rejection fails, since there are multiple distinctions between the inventive claims and the claims of Hoshino et al.

Regarding Analysis A, Applicants respectfully submit that the Examiner has not indicated why it would be obvious to modify the inventive detergent-impregnated article to incorporate a detergent gradual-releasing layer wherein there is a **difference** in density between each of the detergent gradual-releasing layers and the detergent-retaining layer of from 0.005 to 0.95 g/cm² as required by Hoshino et al.

Regarding Analysis B, Applicants respectfully submit that the Examiner has not indicated why it would be obvious to modify the presently claimed detergent-impregnated article to include a detergent-retaining layer having a density of 0.005 to 0.5 g/cm² under a load of 2.5 g/cm² as required by Hoshino et al.

Accordingly, under the appropriate Two Way test, the Examiner's rejection is untenable, since the claims of Hoshino et al. are not obvious based on the inventive claims in view of the prior art, **and** the inventive claims are not obvious based on the claims of Hoshino

et al. in view of the prior art. As such, withdrawal of the rejection is respectfully requested.

Conclusion

In view of the above-amendments and comments, Applicants respectfully submit that the claims are in condition for allowance. A notice to such effect is earnestly solicited.

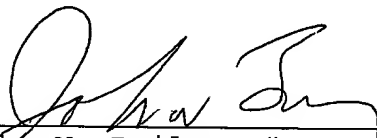
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Garth M. Dahlen (Reg. No. 43,575) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.


If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees

required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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